

## FANUC Robot M-410*i*B



### FEATURES

- M-410*i*B series are the intelligent palletizing robots which contribute for robotization of palletizing system.
- Suitable robot type can be selected according with workpieces.
  - FANUC Robot M-410*i*B/140H  
140kg payload, high speed type
  - FANUC Robot M-410*i*B/160  
160kg payload, high speed type
  - FANUC Robot M-410*i*B/300  
300kg payload, heavy payload type
  - FANUC Robot M-410*i*B/450  
450kg payload, heavy payload type
  - FANUC Robot M-410*i*B/700  
700kg payload, extra heavy payload type
- Customer can use the latest intelligent function of *i*RVision and ROBOGUIDE.(option)
- Detection of height of workpieces.
  - Discrimination of a size or a kind.
  - Visual inspection.
  - Sorting of workpieces.
  - Depalletizing the load on a received pallet.
  - Easy to create a palletizing program.
  - Motion optimization of a program.

### Application systems

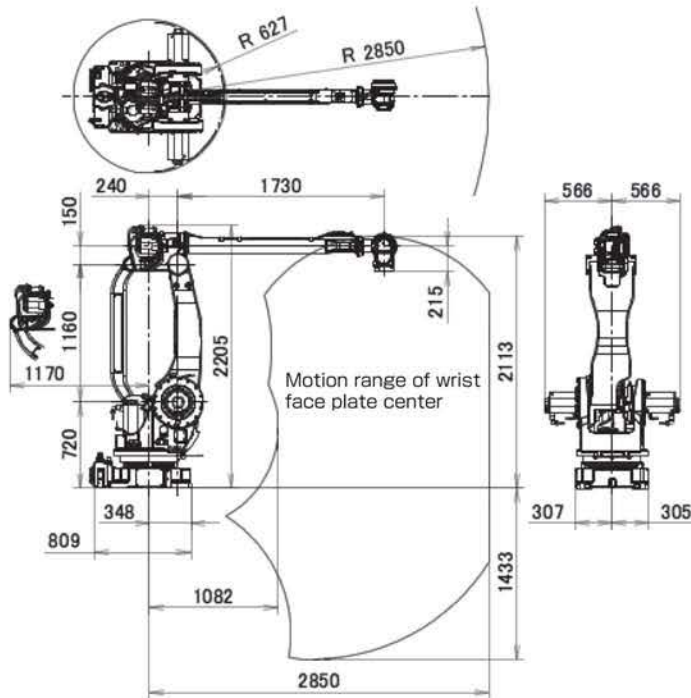


Boxes palletizing

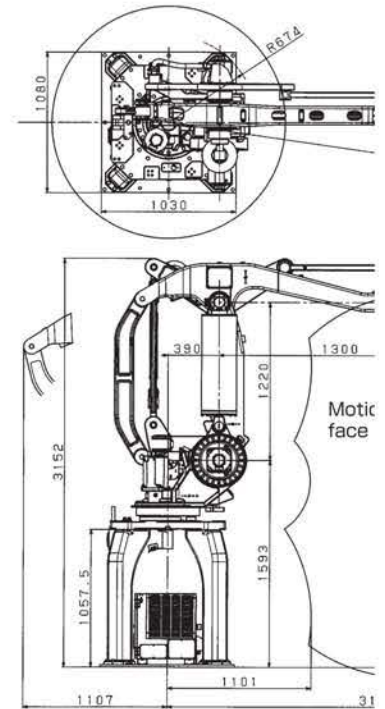


Bags palletizing

## Operating space (M-410iB/140H)



## Operating space (M-410iB/160)



## Specifications

Item		Specifications
		<b>M-410iB/140H</b>
Type		Articulated Type
Controlled axes		5 axes (J1,J2,J3,J4,J5)
Reach		2850mm
Installation		Floor
Motion range (Maximum speed) (Note1)	J1 axis rotation	360° (140° /s) 6.28 rad ( 2.44 rad/s)
	J2 axis rotation	155° (115° /s) 2.71rad(2.01rad/s)
	J3 axis rotation	112° (135° /s) 1.95 rad ( 2.36 rad/s)
	J4 axis wrist swing (Note2)	20° (135° /s) 0.35 rad ( 2.36 rad/s)
	J5 axis wrist rotation	720° (420° /s) 12.57 rad ( 7.33 rad/s)
Max. load capacity at wrist		140kg
Max. load capacity at J2 base		550kg
Max. load capacity at J3 arm (Note3)		140kg
Allowable load inertia at wrist	J4 axis	147 kg·m <sup>2</sup> 1500 kgf·cm·s <sup>2</sup>
	J5 axis	53 kg·m <sup>2</sup> 540 kgf·cm·s <sup>2</sup>
Throughput (Note4)		1900 cycles/hour
Drive method		Electric servo drive by AC servo motor
Repeatability		± 0.2 mm
Mass (Note5)		1200 kg
Installation environment		Ambient temperature : 0~45°C Ambient humidity : Normally 75%RH or less (No dew, nor frost allowed) Short term Max. 95%RH or less (within one month) Vibration : 0.5G or less

Note 1) In case of short distance motion, the axis speed may not reach the maximum value stated.

Note 2) The wrist interface is always toward to down ward. The angle is variable up to 20 degrees width.

Note 3) Max. payload capacity at wrist are changed by wrist load.

Note 4) With 45kg payload, the horizontal range is 2000mm and vertical one is 400mm. (with fan option)

Note 5) Without controller.

## Specifications

Item		M-
Type		
Controlled axes		
Reach		
Installation		
Motion range (Maximum speed) (Note 1)	J1 axis rotation	360° 6.28 rad
	J2 axis rotation	144° 2.51 rad
	J3 axis rotation	136° 2.37 rad
	J4 axis rotation	540° 9.42 rad
Max. load capacity at wrist		
Allowable load inertia at wrist		78 kg·m <sup>2</sup>
Throughput (Note2)		1500
Drive method		Elect
Repeatability		
Mass (Note3)		
Installation environment		Ambient Ambient Normally Short te Vibration

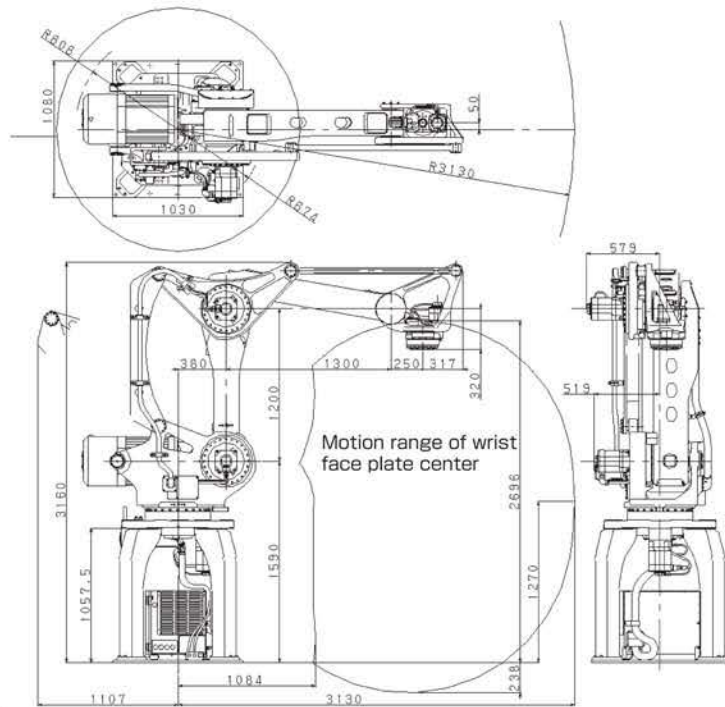
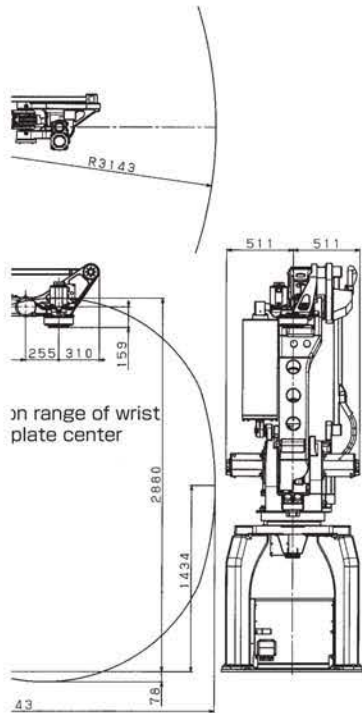
Note 1) In case of short distance motion, the axis speed may not reach the maximum value stated.

Note 2) With maximum payload, the horizontal range is 2000mm and vertical one is 400mm. (with fan option)

Note 3) Controller mass (120kg) is included.

4iB/160, M-410iB/300)

Operating space (M-410iB/450)



Specifications	
410iB/160	M-410iB/300
Articulated Type	
4 axes (J1,J2,J3,J4)	
3143mm	
Floor	
130° /s	360° (85° /s)
2.27 rad/s	6.28 rad (1.48 rad/s)
130° /s	144° (90° /s)
2.27 rad/s	2.51 rad (1.57 rad/s)
135° /s	136° (100° /s)
2.36 rad/s	2.37 rad (1.75 rad/s)
300° /s	540° (190° /s)
5.24 rad/s	9.42 rad (3.32 rad/s)
160 kg	300 kg
800 kgf·cm·s <sup>2</sup>	137 kg·m <sup>2</sup> 1400 kgf·cm·s <sup>2</sup>
cycles/hour	
1000 cycles/hour	
Electric servo drive by AC servo motor	
± 0.5 mm	
1940 kg	
temperature : 0~45°C	
humidity :	
Normally 75%RH or less (No dew, nor frost allowed)	
Short term Max. 95%RH or less (within one month)	
Vibration : 0.5G or less	

Note 1) Axis speed may not reach the maximum value stated. Horizontal range is 2000mm and vertical one is 400mm.

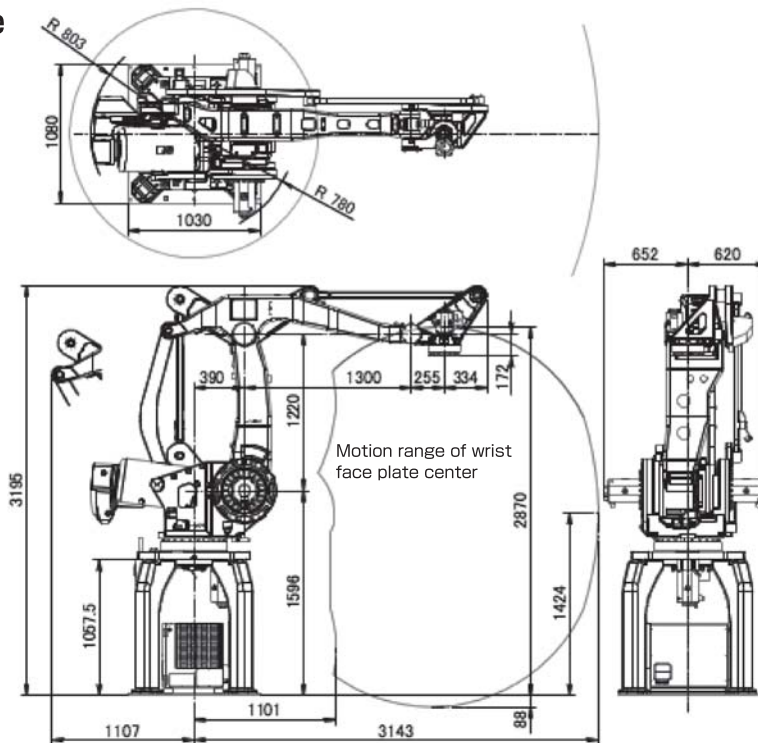
Specifications

Item		Specifications
		M-410iB/450
Type		Articulated Type
Controlled axes		4 axes (J1,J2,J3,J4)
Reach		3130mm
Installation		Floor
Motion range (Maximum speed) (Note1)	J1 axis rotation	360° (70° /s) 6.28 rad (1.22 rad/s)
	J2 axis rotation	145° (70° /s) 2.53 rad (1.22 rad/s)
	J3 axis rotation	135° (70° /s) 2.36 rad (1.22 rad/s)
	J4 axis rotation	540° (180° /s) 9.42 rad (3.14 rad/s)
Max. load capacity at wrist		450 kg
Allowable load inertia at wrist		196 kg·m <sup>2</sup> 2000 kgf·cm·s <sup>2</sup>
Throughput (Note2)		700 cycles/hour
Drive method		Electric servo drive by AC servo motor
Repeatability		± 0.5 mm
Mass (Note3)		2430 kg
Installation environment		Ambient temperature : 0~45°C Ambient humidity : Normally 75%RH or less (No dew, nor frost allowed) Short term Max. 95%RH or less (within one month) Vibration : 0.5G or less

Note 1) In case of short distance motion, the axis speed may not reach the maximum value stated.  
Note 2) With maximum payload, the horizontal range is 2000mm and vertical one is 400mm.  
Note 3) Controller mass (120kg) is included.



## Operating space



## Specifications

Item		Specifications
		M-410iB/700
Type		Articulated Type
Controlled axes		4 axes (J1,J2,J3,J4)
Reach		3143mm
Installation		Floor
Motion range (Maximum speed) (Note 1)	J1 axis rotation	360° (60° /s) 6.28 rad (1.05 rad/s)
	J2 axis rotation	144° (60° /s) 2.51 rad (1.05 rad/s)
	J3 axis rotation	136° (60° /s) 2.37 rad (1.05 rad/s)
	J4 axis rotation	540° (120° /s) 9.42 rad (2.09 rad/s)
Max. load capacity at wrist		700 kg
Allowable load inertia at wrist		490 kg·m <sup>2</sup> 5000 kgf·cm · s <sup>2</sup>
Throughput (Note2)		700 cycles/hour
Drive method		Electric servo drive by AC servo motor
Repeatability		± 0.5 mm
Mass (Note3)		2700 kg
Installation environment		Ambient temperature : 0~45°C Ambient humidity : Normally 75%RH or less (No dew, nor frost allowed) Short term Max. 95%RH or less (within one month) Vibration : 0.5G or less

Note 1) In case of short distance motion, the axis speed may not reach the maximum value stated.

Note 2) With maximum payload, the horizontal range is 2000mm and vertical one is 400mm.

Note 3) Controller mass (120kg) is included.

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